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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MERCADO, JULIAN A

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

03/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/775,315	Applicant(s) JUNG ET AL.	
	Examiner JULIAN MERCADO	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

This Office action is responsive to applicant's amendment filed on December 5, 2007.

Claims 1-4 and 11 are pending.

Information Disclosure Statement

The Information Disclosure Statement filed on January 25, 2008 has been considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer (U.S. Pat. 5,783,333).

The rejection is maintained for the reasons of record. The examiner notes that claim 11 is submitted for consideration as previously presented. The scope of the claim is the same as that previously considered in the prior Office action.

Applicant's arguments filed with the present amendment have been fully considered, however they are not found persuasive. Claim 11 recites that the oxides remain distinct chemical

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species and are “bonded together by a first binder adapted to be evaporated....” Since the binder is removed from the final product, the argument that the claims call for a first binder which is ultimately evaporated appears to be drawn to the intermediate and not the final product.

Notwithstanding, in a first interpretation, Mayer is maintained to teach this feature insofar as teaching oxide materials which are bound together as “distinct chemical species” which “include 'particles' of a first chemically distinct positive electrode material interspersed with 'particles' of a second chemically distinct positive electrode material.” See col. 8 line 42 et seq. In a second interpretation, even if the first binder limitation were to be given structural weight, during the preparation of the metal oxides, a binder such as water is added to the mixture, which is subsequently evaporated. See col. 15 lines 40-61.

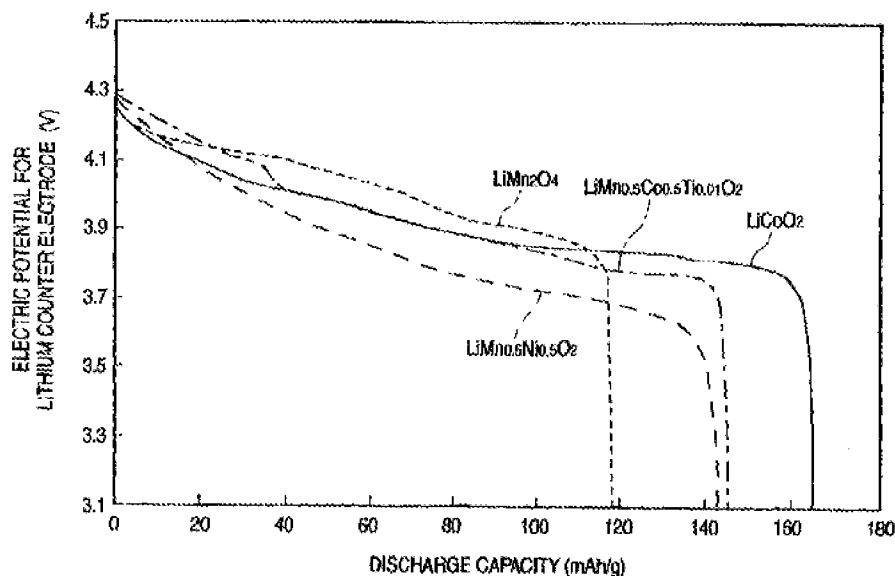
Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pynenburg et al. (U.S. Pat. 5,429,890) in view of Hasegawa et al. (U.S. Pat. 5,370,948) and as evidenced by Imachi (U.S. Pat. 7,056,622 B2).

The rejection is maintained for the reasons of record. The examiner notes the amendment to the present claims now reciting a ratio of about 4:6 to about 1:9 for the lithium manganese oxides to lithium nickel manganese oxides. While Pynenburg et al. teaches a ratio from 1:10 to 10:1 in col. 7 lines 55-60, at the same time the patentees specifically teach that the “cell capacity is proportional to the area under the curve of the differential cell capacity dQ/dV vs. voltage.” See col. 8 line 47 et seq. As evidence to show the differences in cell capacity and discharge capacity for the prior art oxides, Imachi et al. teaches that lithium nickel manganese oxide has a

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higher discharge capacity at around 145 (est.) as compared to lithium manganese oxide at around 120 (est.). See Figure 1.

FIG. 1



Furthermore, it appears to the examiner that the cell capacity for lithium nickel manganese oxide is higher. Thus, following Pynenburg et al.'s teaching, it would not require undue experimentation for the skilled artisan to focus on a lower ratio of lithium manganese oxides relative to lithium nickel manganese oxides. The motivation to do so is to optimize and maximize the result-effective total cell capacity, as evidenced by Imachi. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)

The declaration under 37 CFR 1.132 filed on March 30, 2007 is insufficient to overcome the rejection of claims 1-4 based upon Pynenburg et al. in view of Hasegawa et al. as set forth in

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prior Office action. The comparative data shown in the declaration is not deemed representative of the ratio specifically taught by the prior art. The presented ratio of “2/8” is not considered representative of a ratio of about 4:6 as presently claimed, and much less the lower ratio of 1:9 as presently claimed. A ratio of “2/8”, while clearly a ratio which is less than 4:6, is fractionally equal to 12/48, while a ratio of 4/6 is fractionally equal to 32/48. The difference amounts to over 40% which is considered significant. Furthermore, even if the data were more representative of the claimed range, it is asserted that the result of a higher discharge capacity as the amount of lithium nickel manganese oxide increases is a non-obvious and expected result given the teachings of Pynenburg et al. that the cell capacity is proportional to the area under the curve of the differential cell capacity dQ/dV vs. voltage.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

/J. M./

Examiner, Art Unit 1795

/PATRICK RYAN/

Supervisory Patent Examiner, Art Unit 1795